IN THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A rotor for a synchronous machine comprising

a cylindrical magnetic solid rotor core having at least one conduit extending through the core and ~~parallel~~ perpendicular to a core axis;

a race-track super-conducting coil winding extending around the rotor core, wherein said coil winding is in a plane of the at least one conduit;

a coil support extending through the at least one conduit of the core and attaching to opposite long sides of the coil winding, wherein a gap is between said coil support and said conduit such that the coil support is thermally isolated from said conduit, and

a pair of end shafts extending axially from said core and attached to the core.

2. (previously amended) A rotor as in claim 1 wherein the rotor core includes a pair of flat surfaces formed on opposite long sides of the rotor core, and said long sides of the coil winding are adjacent the flat surfaces, and wherein said at least one conduit has an opening on each of said flat surfaces.

3. (cancelled)

4. (original) A rotor as in claim 1 wherein the coil support system and coil are at cryogenic temperatures, and the coil support system is thermally isolated from the rotor core.

5. (previously amended) A rotor as in claim 4 wherein an insulating tube inserted in the at least one conduit of the rotor core separates the coil support from the core.

6. (original) A rotor as in claim 1 wherein the end shafts are a non-magnetic metal.

7. (original) A rotor as in claim 6 wherein the end shafts are stainless steel.

8. (original) A rotor as in claim 1 wherein the rotor core is a solid magnetic iron forging.

9. (original) A rotor as in claim 1 wherein the coil has a race-track shape.

10. (original) A rotor as in claim 1 further comprising a conductive shield around the rotor core and coil.

11. (original) A rotor as in claim 1 wherein one of said end shafts is a collector end shaft having collector rings and a cryogenic fluid coupling.

12-16. (cancelled)

17. (previously amended) In a synchronous machine, a rotor comprising:

a cylindrical rotor core having a pair of planer sections on opposite sides of the core and extending longitudinally along the core, at least one conduit extending through said core and having openings on each of said planer sections;

a super-conducting coil winding extending around at least a portion of the rotor core, said coil winding having a pair of side sections adjacent said planer sections of the core, and said side sections aligned with the openings of the at least one conduit;

a coil support extending through the at least one conduit and attached to the side sections of the coil winding, wherein said coil support is thermally isolated from the rotor core;

a first end shaft extending axially from a first end of the rotor core, and

a second end shaft extending axially from a second end of the rotor core.

18. (original) In a rotor as in claim 17 wherein the first end shaft includes a cryogenic coupling for providing cooling fluid to said coil winding.

19. (previously amended) In a rotor as in claim 17 wherein said coil support further comprises at least one tension rod extending through the at conduit of the core and said tension rod attaches to coil housings at opposite ends of the rod, wherein each coil housing wraps around one of the side sections of the coil.

20. (original) A rotor as in claim 19 wherein the coil support and coil are at cryogenic temperatures, and the coil support is thermally isolated from the rotor core.

21. (previously amended) A rotor as in claim 20 wherein an insulating tube inserted in the conduit of the rotor core separates the tension rod from the core.

REMARKS

It is respectfully requested that claim 1 be amended to correct an error of terminology. In particular, the conduit "46" through the rotor core is perpendicular to the core axis and not parallel to the core axis. Claim 1 as allowed, indicates that the conduits are parallel to the core axis, which is contrary to all the embodiments of the invention shown in the application. To ensure that claim 1 corresponds to the disclosed embodiment, the term "perpendicular" should be substituted for the term "parallel" in that claim. This amendment does not affect the determination of patentability of claim 1.

In addition, the Examiner stated reasons for allowance set forth in the Notice of Allowance should reflect that the conduit is perpendicular to a rotor core axis rather than parallel. Further, the stated reasons for allowance relate to claim 1 of the application and are not directly applicable to independent claim 17 and dependent claims 18 to 21.

Entry of this 312 Amendment would be appreciated. The Examiner is invited to telephone the undersigned if any small manner remains outstanding.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Jeffry H. Nelson
Reg. No. 30,481

JHN:glf
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100